Work Order ID 97380

97380

February-19-13 8:55:20 AM

Item ID: D4319-1 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Altimeter Bracket

Start Date: 2/19/13 **Start Qty:** 2.00 *2* **Cust Item ID:**

Required Date: 3/05/13 **Req'd Qty:** 2.00 *2* **Customer:**

Reference:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** MC5 **Date:** 1302-19 **Tooling:** **Date:**

QC: **Date:** **SPC (Y/N):** **Date:**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr D4319	**Revision Nbr** A								
100		0.00							
100	BAND SAW		D.a 13/03/14			2	ϕ		
Bandsaw	**Memo**	0.00							
Jeaspa Bandsaw	Cut blanks 8.200"								
110		0.00							
110	HAAS CNC VERTICAL MACHINING #1								
HAAS 1	**Memo**	0.00	ark 13/03/16			2	ϕ		
HAAS CNC vertical machine #1	1-Machine per folio FB037 FOLIO REV: AA DWG REV: A 2-Deburr any rough edges								
120	QC2- Inspect parts off machine FAI/FAIB	0.00	ark 13/03/16			2	ϕ		
120									
QC	**Memo**	0.00							
Quality Control									

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data										
Equip/Tooling										
Operator										
Material										
Setup										
Other										
Process										
Supplier										
Training										
Unapproved										

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

_____

_____

_____

Work Order ID 97380

February-19-13 8:55:20 AM

97380

Item ID: D4319-1 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Altimeter Bracket

Start Date: 2/19/13 **Start Qty:** 2.00 *2*

Required Date: 3/05/13 **Req'd Qty:** 2.00 *2*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC8- Inspect parts - second check	0.00				2			
130									
QC	Memo	0.00							
Quality Control									
140	Chemical Conversion Coat per QSI005 4.1	0.00							
140									
HandFinish	Memo	0.00							
Hand Finishing									
160	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
160									
Powdercoat	Memo	0.00							
Powder Coating	START TIME: 3:20 OVEN TEMPERATURE: 320 JI FINISH TIME: 3:50								

B322

2x ø m-f 13/04/01

2x ø m-f 13/04/01

ML24245

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric to O/S
☐ Cracks
☐ Crushed/Crimped.
☐ Cuffs
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Ripples in Bend
☐ Torque Waves in Extrusion
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damaged
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drill Holes
☐ Drawing
☐ Finish
☐ Folio

☐ Grain
☐ Hardware
☐ Inspection Incomplete
☐ Instructions Incomplete/Unclear
☐ Maintenance
☐ Mislabeled
☐ Misread
☐ Offset
☐ Out of Calibration
☐ Out of Sequence
☐ Outside Dimensions

☐ Ovalized
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge

☐ Pressure/Forced
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled

☐ Other

_____
_____
_____

Work Order ID 97380

February-19-13 8:55:20 AM

97380

Item ID: D4319-1 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Altimeter Bracket

Start Date: 2/19/13 **Start Qty:** 2.00 *2*

Required Date: 3/05/13 **Req'd Qty:** 2.00 *2*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170	QC3- Inspect Part Finish	0.00							
170 QC Quality Control	Memo	0.00				2	0		
180	Identify as per dwg & Stock Location:_____	0.00							
180 Packaging Packaging	Memo 50/04	0.00							
190	QC21- Final Inspection - Work Order Release	0.00							
190 QC Quality Control	Memo	0.00							

13/4/3

13/4/3

B-04-3

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data										
Equip/Tooling										
Operator										
Material										
Setup										
Other										
Process										
Supplier										
Training										
Unapproved										

FAULT CATEGORY

Landing Gear

- ☐ Bending
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- ☐ Bend
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- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other _____

Picklist Print

February-19-13 8:55:23 AM

1

Work Order ID: 97380

97380

Parent Item: D4319-1

D4319-1

Parent Item Name: Altimeter Bracket

Start Date: 2/19/13 **Required Date:** 3/05/13

Start Qty: 2.00 **Required Qty:** 2.00

Comments: IPP REV:A NEW ISSUE 11-02-03 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6B2.500X03.500		Purchased	No			100	f	5.5500	0.6871	1.446526			

M6061T6B2.500X03.500

6061-T6 Bar 2.50 x 3.50

**

D.A 13/03/14

Location	Loc Qty	Loc Code	
MAT008	5.55		
→ 123649	5.55		1.4465 ct

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data										
Equip/Tooling										
Operator										
Material										
Setup										
Other										
Process										
Supplier										
Training										
Unapproved										

FAULT CATEGORY

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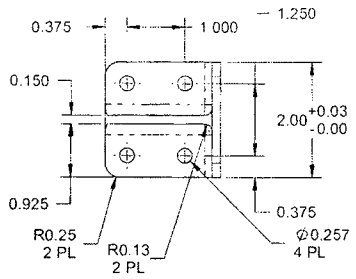
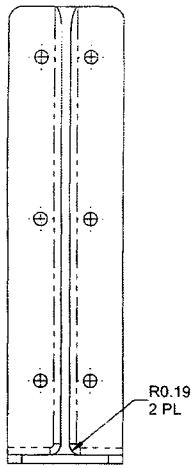
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

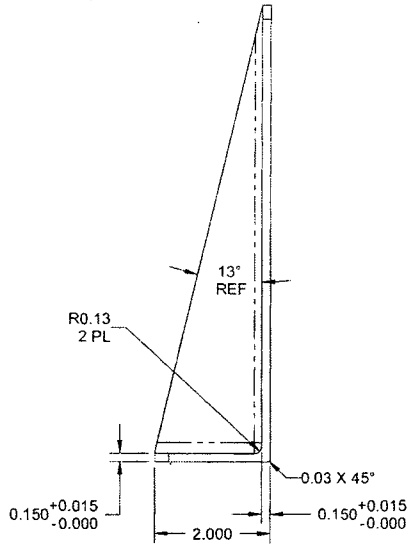
_____

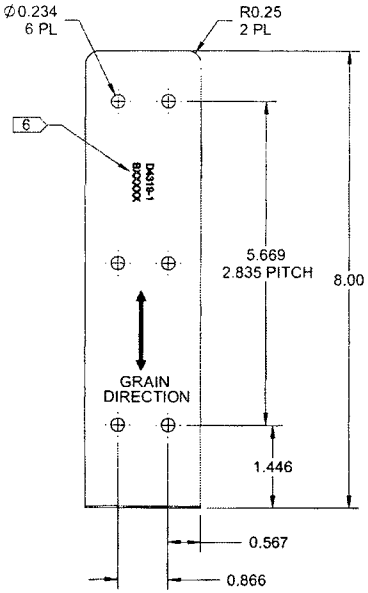
_____

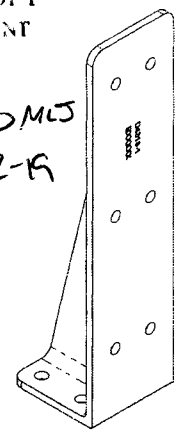
_____











COPY

97380 MJ
1302-19

RELEASED
2011 -03- 02

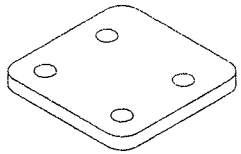
D4319-1 ALTIMETER BRACKET

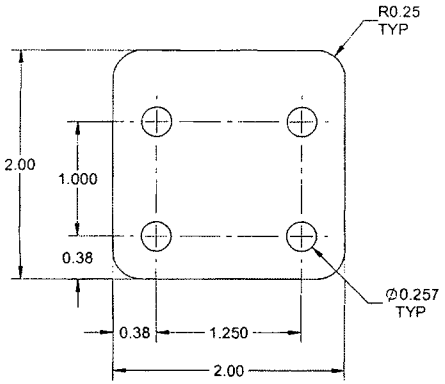
NOTES:
1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER
QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)
OR ASTM B211 OR ASTM B221
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT "WHITE GLOSS" (4.3.5.1) PER DART QSI 005 4.3
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4319-1" AND B/N "BXXXXX" PER DART QSI 044 6.1 (FINE POINT MARKER)
7) WEIGHT: 0.40 lbs

REV.	DESCRIPTION	BY	DATE
A	NEW ISSUE	MB	11.02.03

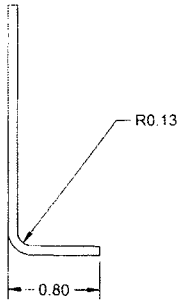
DESIGN	MB	DART AEROSPACE LTD
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA
CHECKED		DRAWING NO. D4319 REV. A
MFG. APPR.		SHEET 1 OF 2
APPROVED		TITLE BRACKETS SCALE NTS
DE APPR.		
DATE	11.02.03	

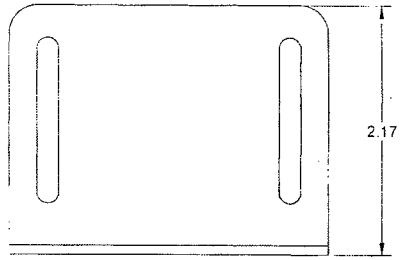
97380

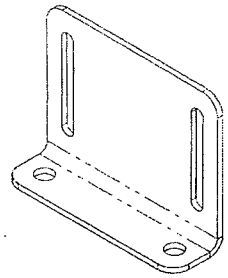




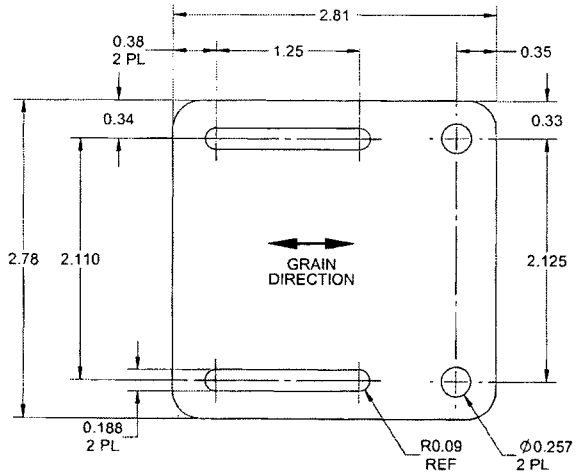
D4319-3 SPACER







D4319-5 GPS BRACKET



D4319-5F FLAT PATTERN

RELEASED
2011-03-02

NOTES:
1) MATERIAL -3: 6061-T6/T62 ALUMINUM SHEET 0.188 THICK PER
QQ-A-250/3 OR AMS QQ-A-250/11
OR AMS 4025 OR AMS 4027 OR ASTM B209 (REF DART SPEC M6061T6S.188)
-5: MAKE FROM -5F
-5F: 6061-T6/T62 ALUMINUM SHEET 0.080 THICK PER
QQ-A-250/3 OR AMS QQ-A-250/11
OR AMS 4025 OR AMS 4027 OR ASTM B209 (REF DART SPEC M6061T6S.080)
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT "WHITE GLOSS" (4.3.5.1) PER DART QSI 005 4.3
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4319-X" AND B/N "BXXXXX" PER DART QSI 044 6.1 (FINE POINT MARKER)
7) WEIGHT -3: 0.07 lbs
-5: 0.02 lbs

DESIGN	MB	DART AEROSPACE LTD
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA
CHECKED		DRAWING NO. D4319 REV. A
MFG. APPR.		SHEET 2 OF 2
APPROVED		TITLE BRACKETS SCALE NTS
DE APPR.		
DATE 11.02.03		

DART AEROSPACE LTD		Work Order:	97380
Description: ALTIMETER BRACKET		Part Number:	D4319-1
Inspection Dwg: D4319 Rev: A			Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
R.19	±.030	R.190	—		R-G	
.150	±.015 .000	.152	—		Vern	M2-06
2.000	±.010	2.001	—		"	
.150	±.015 .000	.153	—		"	
.03X 45°	±.030X ±½°	.048X45°	—		"	
13°	±½°	13°	—		G-Square	
.866	±.005	.866	—		Vern	M2-06
.567	±.005	.567	—		"	
1.446	±.005	1.446	—		"	
2.835	±.005	2.835	—		"	
8.00	±.080	8.000	—		Vern	CNC-02
R.25	±.030	R.250	—		R-G	
Ø.234	±.005 .001	Ø.236	—		Vern	M2-06
Ø.257	±.004 .001	Ø.257	—		"	
.375	±.005	.380	—		"	
2.00	±.030 .000	2.004	—		"	
1.250	±.005	1.250	—		"	
1.000	±.005	1.000	—		"	
.375	±.005	.375	—		"	
.150	±.010	.152	—		"	
.925	±.010	.926	—		"	
R.25	±.030	R.250	—		R-G	
R.13	±.030	R.130	—		"	

Measured by:		Audited by:		Preliminary Approval:	
Date:	13/03/16	Date:	13 3 22	Date:	

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

10.04.15